

# National Weather Service Implements a New Wind Chill Temperature Index

The National Weather Service (NWS) will implement a replacement Wind Chill Temperature (WCT) index on **November 1, 2001**. The reason for this change is to improve upon the current WCT Index used by the NWS, which is based on the 1945 Siple and Passel Index.

For nearly a year, a team of experts from the USA and Canada, have been working on developing such a new index. This new index makes use of advances in science, technology and computer modeling to provide a more accurate, understandable and useful formula for calculating the dangers from winter winds and freezing temperatures. In addition, clinical trials have been conducted and the results of these trials have been used to verify and improve the accuracy of the new formula.

Specifically, the new WCT index will:

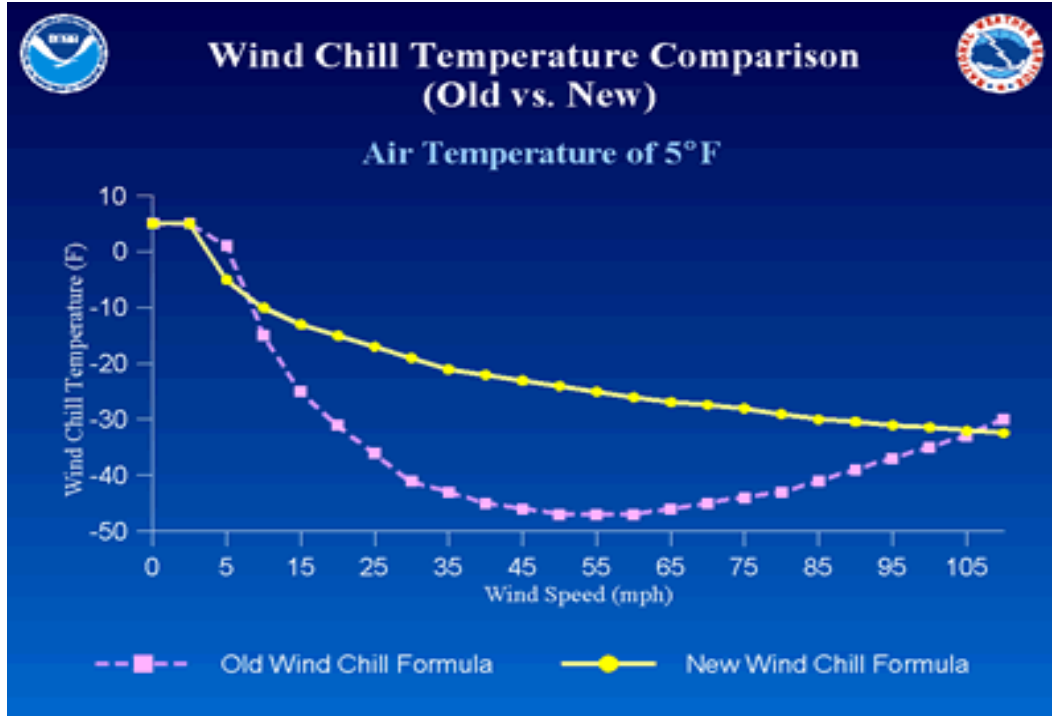
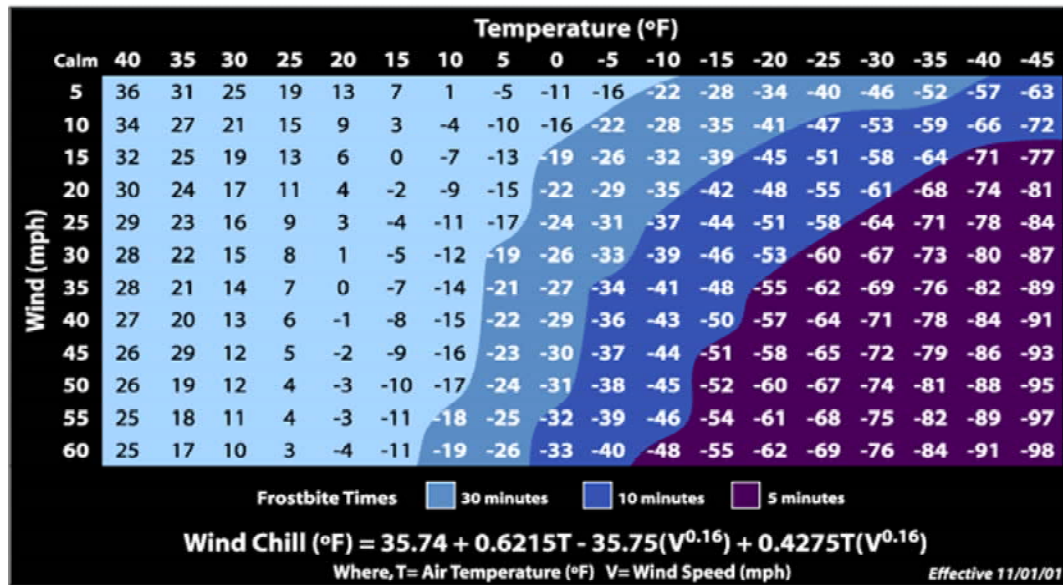
- ▶ Use calculated wind speed at an average height of five feet (typical height of an adult human face) based on readings from the national standard of 33 feet;
- ▶ Be based on a human face model;
- ▶ Incorporate modern heat transfer theory (heat loss from the body to its surroundings, during cold and breezy/windy days);
- ▶ Lower the calm wind threshold to 3 mph;
- ▶ Use a consistent standard for skin tissue resistance; and
- ▶ Assume no impact from the sun (i.e. clear night sky).

Again, the new index will be in effect on November 1, 2001. In 2002, adjustments for solar radiation (i.e. the impact of the sun) for a variety of sky conditions (sunny, partly cloudy, and cloudy) will be added to the calculation model.

What is the impact here in north-central Kansas and south-central Nebraska of the new WCT index? The WCT index will still be described as a “feels like” temperature in degrees Fahrenheit, but there will be some new education of what the value means. What used to be described as a

-35 degree wind chill, might be only a -20 degree chill with the new index. It doesn't mean that it is really warmer, but the index is based more on when frostbite might occur. Generally, when the wind chill is at -20, skin might freeze if unprotected for 30 minutes. At -30 WCT index, unprotected skin might freeze in 15 minutes. With this in mind, the NWS at Hastings, NE will be issuing **Wind Chill Advisories** when the WCT index will be from **-20 to -30 degrees Fahrenheit** and **Wind Chill Warnings** will be issued for WCT indices **colder than -30 degrees F**

# Wind Chill Chart



## Outlook for Winter 2001-02

The National Weather Service (NWS) has released its winter weather outlook for the United states, and the trend is expected to like a sequel to last year's cold season.

The winter of 2001-02 is expected again to be a climatological 'normal' winter for most of the plains states, including Nebraska and Kansas. In a 'normal' winter, for example, snowfall within the Hastings County Warning Forecast Area (CWFA) ranges from about 25 inches in north central Kansas, to just over 30 inches in parts of south central Nebraska.

Specifically, the Climate Prediction Center (CPC) predicts equal chances of a normal precipitation and temperatures. This means there is no bias toward colder or warmer temperatures than normal across south central Nebraska and north central Kansas.

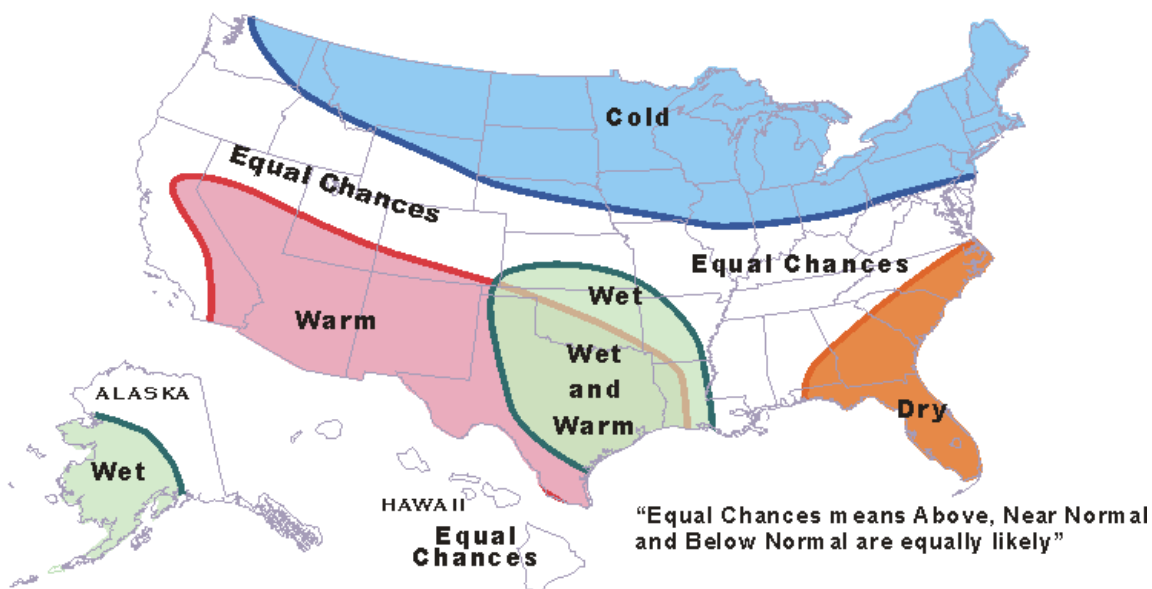
However, when compared to the winters from 1998 through 2000, temperatures are expected to range from 2 degrees colder in north central Kansas, to 4 degrees colder in south central Nebraska. Cold air outbreaks will likely be more often and lead to more days below zero.

Scott Gudes, The Acting Administrator for NOAA stated, "We don't expect a repeat of the record-breaking cold temperatures of November-December of last year, but this winter should be colder than the winters of the late 1990s. Citizens should prepare for a full range of winter weather." Jack Kelly, Director of the NWS said "The nation is likely to experience large temperature and precipitation swings during the winter."

The latest winter outlook can be accessed on the internet at <http://www.cpc.noaa.gov>. The outlook will be updated on the Web on November 15, 2001.



### WINTER OUTLOOK Temperature and Precipitation Compared to 1971-2000 Normals



# WINTER WEATHER TERMS YOU SHOULD KNOW

Each year, the National Weather Service issues numerous watches, warnings and advisories. Knowledge of those products is a critical element in winter weather preparations.



**Winter Storm Watch:** Adverse winter weather (heavy snow, blizzard) is expected within the next two days, but the exact timing, location or occurrence of the storm is still uncertain. This is the time to get prepared for the storm.

**Winter Storm Warning:** Hazardous winter weather is likely. If not already occurring, it is expected to occur within 6 to 24 hours. Travel will be hazardous, if not impossible. You should be ready for the storm by this time.

**Blizzard Warning:** The most dangerous of all winter weather will occur in your area. A combination of winds 35 mph or greater and significant snow and/or blowing snow with visibilities less than 1/4 mile for three or more hours is expected in the warning area. Blinding snow(“white out”), deep drifts and life threatening wind chill will occur. Travel will be dangerous and should not be attempted. **You should seek refuge immediately!**

**Heavy Snow Warning:** A snowfall totaling 6 inches or more to fall in 12 hours or 8 inches or more in 24 hours.

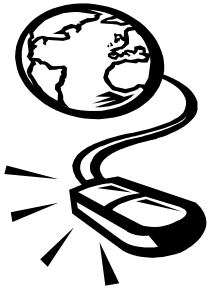
**Snow Advisory:** A snowfall totaling 3 to 5 inches in 12 hours.

**Winter Weather Advisory:** Weather conditions are expected to cause significant inconveniences and may be hazardous. If caution is exercised, these situations should not be life-threatening. The greatest hazard is often to motorists. Examples of conditions for which advisories are issued include: snow, blowing snow, freezing drizzle and dangerous wind chill.

**Wind Chill Advisory:** wind chills from -20° to -30° Fahrenheit.

**Wind Chill Warning:** wind chills colder than -30° Fahrenheit.

## Check us out on the Web...



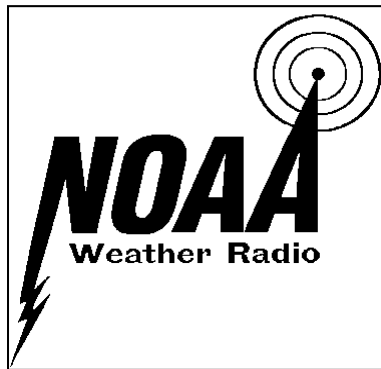
Hastings NWS Homepage

NWS Winter Weather Info

FEMA Winter Storm Update Center

The Red Cross Winter Safety Information

## ...But Don't Forget...



National Weather Service Radio brings you the latest in weather information, including forecasts, advisories and current conditions. The warning alarm tone will be activated for ***all Winter Storm Warnings and Blizzard Warnings*** issued for the listening areas.

The alarm tone will be preceded with the EAS activation codes for these events. Alarm activation will not occur for any other winter weather watches or advisories, nor will the EAS codes be sent. So don't shut the weather radio off just because it is winter time.

**In Kansas**, WWF-87 covers Phillips and Rooks counties and transmits at 162.425 MHz. Weather Radio station WXX-94 at 162.550 MHz provides weather information for Jewell and Mitchell counties. Rooks County is also covered by Weather Radio station WXM35 at 162.450 MHz.

**In Nebraska**, listen to WXL-74 transmitting at 162.400 MHz and covering the area generally between U.S. Highways 281 and 81. Also, WXL-75 transmits at 162.475 MHz and covers the area west of U.S. Highway 281 and east of U.S. Highway 283.

